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EXAMINER

CHEUNG, WILLIAM K

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* LOUIS FOUARGE and  
ANDRE LEWALLE

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Appeal 2009-014591  
Application 10/528,713  
Technology Center 1700

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Before CHUNG K. PAK, JEFFREY T. SMITH, and  
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

## STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134 from a final rejection of claims 17-30, 34-36, and 38, all of the pending claims. We have jurisdiction under 35 U.S.C. § 6.

Appellants' invention relates to a method of preparing polyolefins in a slurry loop reactor. Claim 36 is illustrative:

36. A method of forming polyolefins comprising:

supplying ethylene monomer in a carrier liquid to a reactor system comprising at least one loop reactor;

circulating the ethylene through the loop reactor in the presence of a catalyst system to form a slurry of polymer fluff particles in the carrier liquid;

altering the flow of at least a portion of the slurry by at least one of:

flowing a portion of the slurry through a bypass line extending from one location of the loop reactor to another location of the same loop reactor;

operating a circulating pump and circulating the slurry through the loop reactor at an efficiency of from 30-75% of a pump capacity; or

providing a plurality of obstacles in a flow path of the slurry within the loop reactor; and

while continuing the introduction of the carrier liquid and ethylene monomer into the loop reactor, withdrawing a portion of the slurry from the loop reactor as a polymer product.

Appellants request review of the following rejections:

- I. Claim 38 stands rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.
- II. Claims 17-30, 34-36, and 38 stand rejected under 35 U.S.C. § 103(a) as obvious over Rouzier, U.S. Patent 3,595,846, issued July 27, 1971.
- III. Claims 29 and 30 stand rejected under 35 U.S.C. § 103(a) as obvious over the combination of Rouzier and Weinreich, U.S. Patent 3,093,482, issued June 11, 1963.

## OPINION

### *The § 112, first paragraph, rejection*

The test for determining compliance with the written description requirement of 35 U.S.C. § 112, first paragraph, is whether the disclosure of an application, as originally filed, reasonably conveys to one of ordinary skill in the art that the inventor had possession at that time of the later claimed subject matter. *In re Kaslow*, 707 F.2d 1366, 1375 (Fed. Cir. 1983).

The Examiner has found that the original application does not reasonably convey to a person of ordinary skill in the art that Appellants had possession of the negative claim limitation “without the aid of a pump disposed within the bypass line” recited in claim 38. (Final Rejection 2-3). In particular, the Examiner has correctly found no explicit or implicit support in the original Specification for the negative limitation in question. *Id.* On the other hand, Appellants have not specifically identified portions of the Specification and/or specific features in the Figures of the present application that impliedly, inherently, or expressly describe the subject

matter claimed. Rather, Appellants only generally refer to the “specification , [and] at least Figures” (App. Br. 3). Appellants have not explained why the Examiner’s findings are erroneous or why and what aspects of the Specification and the Figures, as originally filed, would have reasonably conveyed to one of ordinary skill in the art that the inventors had possession of the negative limitation in question. Under these circumstances, we are constrained to affirm the Examiner’s rejection of claim 38.

*The Prior Art Rejections<sup>1</sup>*

The principal issue on appeal is: Did the Examiner err in determining that Rouzier would have led a person of ordinary skill in the art to perform the method of preparing polyolefins utilizing a slurry loop reactor comprising a bypass line extending from one location of the loop reactor to another location of the loop reactor required by the subject matter of independent claim 36 within the meaning of § 103?

We affirm.

Appellants argue that Rouzier does not teach or suggest a loop reactor as required by the claimed invention. Specifically, Appellants argue that “Rouzier teaches a liquid stage tubular reactor having a discrete point of origin and terminal point, wherein the reaction medium passes through the tubular reactor in a single time before withdrawal.” (App. Br. 4). Appellants further argue that Rouzier does not disclose or suggest forming a

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<sup>1</sup> Appellants have not provided separate arguments for all the claims on appeal. Any claim not separately argued will stand or fall with independent claim 36. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2010). All separately argued claims will be addressed.

slurry of polymer fluff particles in a carrier liquid as required by the claimed invention. (*Id.*).

Appellants' arguments are not persuasive for the reasons set forth by the Examiner (Ans. 4-14). Rouzier describes continuous reactions which are carried out in a closed loop tubular reactor. (Col. 1, ll. 12-13). Rouzier teaches the object of the disclosed invention is to provide for the continuous polymerization of olefins by reacting separate measured quantities of reacting materials contained within the cells movable within a fixed tube. (Col. 2, ll. 23-30). Rouzier discloses that various classical reaction methods (polymerization) are suitable for a closed loop tubular reactor. (Col. 3, ll. 33-45). Consequently, we concur with the Examiner that a person of ordinary skill in the art would have reasonably expected that chemical reactions that produce a slurry of polymer fluff would have been suitable for utilization in a closed loop tubular reactor.

As to claim 38, Appellants argue that Rouzier does not teach or suggest a bypass line extending from one location of the loop reactor to another location of the loop reactor without the aid of a pump disposed within the bypass line. (App. Br. 4). Appellants' arguments are not persuasive. Appellants have not disputed the Examiner's determination that Rouzier describes a bypass line (41) for the circular loop reactor. While it is recognized that Rouzier includes a pump in the bypass line, the exclusion of this component and its attendant function would have been obvious to a person of ordinary skill in the art since it is apparent to one of ordinary skill in the art that the closed loop tubular reactor arrangement taught by Rouzier can be operated without a pump in the bypass line. *In re Thompson*, 545 F.2d 1290, 1294 (CCPA 1976); *In re Kuhle*, 526 F.2d 553, 555 (CCPA

1975). On this record, Appellants have not shown that the use of a pump in the bypass line is critical or essential to Rouzier's closed loop tubular reactor arrangement. Nor have Appellants advanced any argument, let alone the requisite objective evidence, that excluding a pump from the bypass line of Rouzier results in anything other than the reduction in rate of removal of a reaction product from the main loop of the reactor.

Regarding the rejection of claims 29 and 30 over the combined teachings of Rouzier and Weinreich, we affirm this rejection advanced by the Examiner. Appellants' only argument is that Weinreich does not supply the features missing from Rouzier. (App. Br. 5). Because we do not find Appellants' arguments persuasive as to Rouzier alone, it follows that these arguments are unpersuasive as to the combined teachings of Rouzier and Weinreich.

#### ORDER

The rejection of claim 38 under 35 U.S.C. § 112, first paragraph is affirmed.

The rejection of claims 17-30, 34-36, and 38 under 35 U.S.C. § 103(a) as obvious over Rouzier is affirmed.

The rejection of claims 29-30 under 35 U.S.C. § 103(a) as obvious over the combination of Rouzier and Weinreich is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(v).

AFFIRMED

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